

AMENDMENTS TO THE CLAIMS:

The listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF THE CLAIMS

1. (Currently amended) A lighting apparatus for emitting white light comprising:
a semiconductor light source emitting radiation having a peak emission at in the range of from about 250 nm to about 500 450 nm; and
a phosphor composition radiationally coupled to the light source,
the phosphor composition comprising $(\text{Ba}, \text{Sr}, \text{Ca})\text{SiO}_4:\text{Eu}$ (Sr,Ba,Ca)₂ $\text{SiO}_4:\text{Eu}$.
2. (Original) The lighting apparatus of claim 1, wherein the light source is an LED.
3. (Original) The lighting apparatus of claim 2, wherein the LED comprises a nitride compound semiconductor represented by the formula $\text{In}_i\text{Ga}_j\text{Al}_k\text{N}$, where $0 \leq i; 0 \leq j, 0 \leq K$, and $i + j + k = 1$.
4. (Original) The lighting apparatus of claim 1, wherein the light source is an organic emissive structure.
5. (Original) The lighting apparatus of claim 1, wherein the phosphor composition is coated on the surface of the light source.
6. (Original) The lighting apparatus of claim 1, further comprising an encapsulant surrounding the light source and the phosphor composition.
7. (Original) The lighting apparatus of claim 1, wherein the phosphor composition is dispersed in the encapsulant.

8. (Original) The lighting apparatus of claim 1, further comprising a reflector cup.
9. (Original) The lighting apparatus of claim 1, wherein said phosphor composition comprises $(Sr_{0.95}Ba_{0.025}Eu_{0.025})_2SiO_4$.
10. (Original) The lighting apparatus of claim 1, wherein said phosphor composition comprises $(Sr_{0.58}Ca_{0.36}Eu_{0.06})_2SiO_4$.
11. (Original) The lighting apparatus of claim 10, wherein said apparatus has a color point with a ccx value of 0.5286 and a ccy value of 0.4604.
12. (Original) The lighting apparatus of claim 1, wherein said phosphor composition further comprises one or more additional phosphor.
13. The lighting apparatus of claim 12, wherein said one or more additional phosphors are selected from the group consisting of $(Ba,Sr,Ca)_5(PO_4)_3(Cl,F,Br,OH):Eu^{2+},Mn^{2+},Sb^{3+}$; $(Ba,Sr,Ca)MgAl_{10}O_{17}:Eu^{2+},Mn^{2+}$; $(Ba,Sr,Ca)BPO_5:Eu^{2+},Mn^{2+}$; $(Sr,Ca)_{10}(PO_4)_6 \cdot nB_2O_3:Eu^{2+}$; $2SrO \cdot 0.84P_2O_5 \cdot 0.16B_2O_3:Eu^{2+}$; $Sr_2Si_3O_8 \cdot 2SrCl_2:Eu^{2+}$; $Ba_3MgSi_2O_8:Eu^{2+}$; $Sr_4Al_{14}O_{25}:Eu^{2+}$; $BaAl_8O_{13}:Eu^{2+}$; $Sr_4Al_{14}O_{25}:Eu^{2+}$; $BaAl_8O_{13}:Eu^{2+}$; $2SrO \cdot 0.84P_2O_5 \cdot 0.16B_2O_3:Eu^{2+}$; $(Ba,Sr,Ca)MgAl_{10}O_{17}:Eu^{2+},Mn^{2+}$; $(Ba,Sr,Ca)_5(PO_4)_3(Cl,F,OH):Eu^{2+},Mn^{2+},Sb^{3+}$; $(Ba,Sr,Ca)MgAl_{10}O_{17}:Eu^{2+},Mn^{2+}$; $(Ba,Sr,Ca)Al_2O_4:Eu^{2+}$; $(Y,Gd,Lu,Sc,La)BO_3:Ce^{3+},Tb^{3+}$; $Ca_8Mg(SiO_4)_4Cl_2:Eu^{2+},Mn^{2+}$; $(Ba,Sr,Ca)_2(Mg,Zn)Si_2O_7:Eu^{2+}$; $(Sr,Ca,Ba)(Al,Ga,In)_2S_4:Eu^{2+}$; $(Y,Gd,Tb,La,Sm,Pr, Lu)_3(Al,Ga)_5O_{12}:Ce^{3+}$; $(Ca,Sr)_8(Mg,Zn)(SiO_4)_4Cl_2: Eu^{2+},Mn^{2+}$; $Na_2Gd_2B_2O_7:Ce^{3+},Tb^{3+}$; $(Ba,Sr)_2(Ca,Mg,Zn)B_2O_6:K,Ce,Tb$; $(Sr,Ca,Ba,Mg,Zn)_2P_2O_7:Eu^{2+},Mn^{2+}$; $(Ca,Sr,Ba,Mg)_{10}(PO_4)_6(F,Cl,Br,OH): Eu^{2+},Mn^{2+}$; $(Gd,Y,Lu,La)_2O_3:Eu^{3+},Bi^{3+}$; $(Gd,Y,Lu,La)_2O_2S:Eu^{3+},Bi^{3+}$; $(Gd,Y,Lu,La)VO_4:Eu^{3+},Bi^{3+}$; $(Ca,Sr)S:Eu^{2+}$;

$\text{SrY}_2\text{S}_4:\text{Eu}^{2+}$; $\text{CaLa}_2\text{S}_4:\text{Ce}^{3+}$; $(\text{Ca},\text{Sr})\text{S}:\text{Eu}^{2+}$; $3.5\text{MgO} \cdot 0.5\text{MgF}_2 \cdot \text{GeO}_2:\text{Mn}^{4+}$;
 $(\text{Ba},\text{Sr},\text{Ca})\text{MgP}_2\text{O}_7:\text{Eu}^{2+},\text{Mn}^{2+}$; $(\text{Y},\text{Lu})_2\text{WO}_6:\text{Eu}^{3+}$, Mo^{6+} ; $(\text{Ba},\text{Sr},\text{Ca})_x\text{Si}_y\text{N}_z:\text{Eu}^{2+}$.

14. (Currently amended) A lighting apparatus for emitting white light comprising:
 - a UV light source emitting radiation having a peak emission at from about 250 to ~~about 400~~ 450 nm; and
 - a phosphor composition radiationally coupled to the light source, the phosphor composition comprising $(\text{Ba},\text{Sr},\text{Ca})\text{SiO}_4:\text{Eu}$ ($(\text{Sr},\text{Ba},\text{Ca})_2\text{SiO}_4:\text{Eu}$, one or more garnet phosphors having the general formula $(\text{Y},\text{Gd},\text{La},\text{Lu},\text{T},\text{Pr},\text{Sm})_3(\text{Al},\text{Ga},\text{In})_5\text{O}_{12}:\text{Ce}$ and a magnesium fluorogermanate phosphor having the formula $\text{Mg}_4\text{FGeO}_6:\text{Mn}^{4+}$.
15. (Original) The lighting apparatus of claim 14, wherein the light source is a semiconductor LED.
16. (Original) The lighting apparatus of claim 14, wherein the LED comprises a nitride compound semiconductor represented by the formula $\text{In}_i\text{Ga}_j\text{Al}_k\text{N}$, where $0 \leq i$; $0 \leq j$, $0 \leq K$, and $i + j + k = 1$.
17. (Original) The lighting apparatus of claim 14, wherein said light source is an organic emissive structure.
18. (Original) The lighting apparatus of claim 14, wherein the phosphor composition is coated on the surface of the light source.
19. (Original) The lighting apparatus of claim 14, further comprising an encapsulant surrounding the light source and the phosphor composition.
20. (Original) The lighting apparatus of claim 14, wherein the phosphor composition is dispersed in the encapsulant.

21. (Original) The lighting apparatus of claim 14, further comprising a reflector cup.
22. (Currently amended) The lighting apparatus of claim 14, wherein said $(\text{Ba}, \text{Sr}, \text{Ca})\text{SiO}_4:\text{Eu}$ phosphor comprises $(\text{Sr}, \text{Ba}, \text{Ca})_2\text{SiO}_4:\text{Eu}$.
23. (Original) The lighting apparatus of claim 14, wherein said phosphor composition comprises $(\text{Sr}_{0.58}\text{Ca}_{0.36}\text{Eu}_{0.06})_2\text{SiO}_4$.
24. (Original) The lighting apparatus of claim 23, wherein said apparatus has a color point with a ccx value of 0.5286 and a ccy value of 0.4604.
25. (Original) The lighting apparatus of claim 14, wherein said phosphor composition further comprises one or more additional phosphors.
26. (Original) The lighting apparatus of claim 25, wherein said one or more additional phosphors are selected from the group consisting of $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{Br}, \text{OH}):\text{Eu}^{2+}, \text{Mn}^{2+}, \text{Sb}^{3+}$; $(\text{Ba}, \text{Sr}, \text{Ca})\text{MgAl}_{10}\text{O}_{17}:\text{Eu}^{2+}, \text{Mn}^{2+}$; $(\text{Ba}, \text{Sr}, \text{Ca})\text{BPO}_5:\text{Eu}^{2+}, \text{Mn}^{2+}$; $(\text{Sr}, \text{Ca})_{10}(\text{PO}_4)_6 * n \text{B}_2\text{O}_3:\text{Eu}^{2+}$; $2\text{SrO} * 0.84\text{P}_2\text{O}_5 * 0.16\text{B}_2\text{O}_3:\text{Eu}^{2+}$; $\text{Sr}_2\text{Si}_3\text{O}_{8+2}\text{SrCl}_2:\text{Eu}^{2+}$; $\text{Ba}_3\text{MgSi}_2\text{O}_8:\text{Eu}^{2+}$; $\text{Sr}_4\text{Al}_{14}\text{O}_{25}:\text{Eu}^{2+}$; $\text{BaAl}_8\text{O}_{13}:\text{Eu}^{2+}$; $\text{Sr}_4\text{Al}_{14}\text{O}_{25}:\text{Eu}^{2+}$; $\text{BaAl}_8\text{O}_{13}:\text{Eu}^{2+}$; $2\text{SrO} - 0.84\text{P}_2\text{O}_5 - 0.16\text{B}_2\text{O}_3:\text{Eu}^{2+}$; $(\text{Ba}, \text{Sr}, \text{Ca})\text{MgAl}_{10}\text{O}_{17}:\text{Eu}^{2+}, \text{Mn}^{2+}$; $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}):\text{Eu}^{2+}, \text{Mn}^{2+}, \text{Sb}^{3+}$; $(\text{Ba}, \text{Sr}, \text{Ca})\text{MgAl}_{10}\text{O}_{17}:\text{Eu}^{2+}, \text{Mn}^{2+}$; $(\text{Ba}, \text{Sr}, \text{Ca})\text{Al}_2\text{O}_4:\text{Eu}^{2+}$; $(\text{Y}, \text{Gd}, \text{Lu}, \text{Sc}, \text{La})\text{BO}_3:\text{Ce}^{3+}, \text{Tb}^{3+}$; $\text{Ca}_8\text{Mg}(\text{SiO}_4)_4\text{Cl}_2:\text{Eu}^{2+}, \text{Mn}^{2+}$; $(\text{Ba}, \text{Sr}, \text{Ca})_2(\text{Mg}, \text{Zn})\text{Si}_2\text{O}_7:\text{Eu}^{2+}$; $(\text{Sr}, \text{Ca}, \text{Ba})(\text{Al}, \text{Ga}, \text{In})_2\text{S}_4:\text{Eu}^{2+}$; $(\text{Y}, \text{Gd}, \text{Tb}, \text{La}, \text{Sm}, \text{Pr}, \text{Lu})_3(\text{Al}, \text{Ga})_5\text{O}_{12}:\text{Ce}^{3+}$; $(\text{Ca}, \text{Sr})_8(\text{Mg}, \text{Zn})(\text{SiO}_4)_4\text{Cl}_2:\text{Eu}^{2+}, \text{Mn}^{2+}$; $\text{Na}_2\text{Gd}_2\text{B}_2\text{O}_7:\text{Ce}^{3+}, \text{Tb}^{3+}$; $(\text{Ba}, \text{Sr})_2(\text{Ca}, \text{Mg}, \text{Zn})\text{B}_2\text{O}_6:\text{K}, \text{Ce}, \text{Tb}$; $(\text{Sr}, \text{Ca}, \text{Ba}, \text{Mg}, \text{Zn})_2\text{P}_2\text{O}_7:\text{Eu}^{2+}, \text{Mn}^{2+}$; $(\text{Ca}, \text{Sr}, \text{Ba}, \text{Mg})_{10}(\text{PO}_4)_6(\text{F}, \text{Cl}, \text{Br}, \text{OH}):\text{Eu}^{2+}, \text{Mn}^{2+}$; $(\text{Gd}, \text{Y}, \text{Lu}, \text{La})_2\text{O}_3:\text{Eu}^{3+}, \text{Bi}^{3+}$;

(Gd,Y,Lu,La)₂O₂S:Eu³⁺,Bi³⁺; (Gd,Y,Lu,La)VO₄:Eu³⁺,Bi³⁺; (Ca,Sr)S:Eu²⁺; SrY₂S₄:Eu²⁺; CaLa₂S₄:Ce³⁺; (Ca,Sr)S:Eu²⁺; 3.5MgO*0.5MgF₂*GeO₂:Mn⁴⁺; (Ba,Sr,Ca)MgP₂O₇:Eu²⁺,Mn²⁺; (Y,Lu)₂WO₆:Eu³⁺, Mo⁶⁺; (Ba,Sr,Ca)_xSi_yN_z:Eu²⁺.

27. (Currently amended) A lighting apparatus for emitting white light comprising:
a semiconductor light source emitting radiation having a peak emission at in the range of from about 370-250 to about 500-450 nm; and
a phosphor composition radiationally coupled to the light source, the phosphor composition comprising ~~(Ba,Sr,Ca)SiO₄:Eu~~ ~~(Sr,Ba,Ca)₂SiO₄:Eu~~, and one or more of ~~(Sr,Mg,Ca,Ba,Zn)₂P₂O₇:Eu,Mn~~; ~~(Ca,Sr,Ba,Mg)₅(PO₄)₃(Cl,F,OH):Eu,Mn~~; ~~(Sr,Ba,Ca)MgAl₁₀O₁₇:Eu,Mn~~; and ~~Mg₄FGeO₆:Mn⁴⁺~~.
28. (Original) The lighting apparatus of claim 27, wherein the light source is a semiconductor LED.
29. (Original) The lighting apparatus of claim 27, wherein the LED comprises a nitride compound semiconductor represented by the formula In_iGa_jAl_kN, where 0≤ i; 0≤ j, 0≤ K, and i + j + k = 1.
30. (Original) The lighting apparatus of claim 27, wherein said light source is an organic emissive structure.
31. (Original) The lighting apparatus of claim 27, wherein the phosphor composition is coated on the surface of the light source.
32. (Original) The lighting apparatus of claim 27, further comprising an encapsulant surrounding the light source and the phosphor composition.

33. (Original) The lighting apparatus of claim 27, wherein the phosphor composition is dispersed in the encapsulant.
34. (Original) The lighting apparatus of claim 27, further comprising a reflector cup.
35. (Currently amended) The lighting apparatus of claim 27, wherein said $(\text{Ba}, \text{Sr}, \text{Ca})\text{SiO}_4:\text{Eu}$ phosphor comprises $(\text{Sr}, \text{Ba}, \text{Ca})_2\text{SiO}_4:\text{Eu}$ and said $(\text{Sr}_{0.95}\text{Ba}_{0.025}\text{Eu}_{0.025})_2\text{SiO}_4$.
36. (Original) The lighting apparatus of claim 27, wherein said phosphor composition comprises $(\text{Sr}_{0.58}\text{Ca}_{0.36}\text{Eu}_{0.06})_2\text{SiO}_4$.
37. (Original) The lighting apparatus of claim 36, wherein said apparatus has a color point with a ccx value of 0.5286 and a ccy value of 0.4604.
38. (Original) The lighting apparatus of claim 27, wherein said phosphor composition further comprises one or more additional phosphors.
39. (Original) The lighting apparatus of claim 38, wherein said one or more additional phosphors are selected from the group consisting of $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{Br}, \text{OH}):\text{Eu}^{2+}, \text{Mn}^{2+}, \text{Sb}^{3+}$; $(\text{Ba}, \text{Sr}, \text{Ca})\text{MgAl}_{10}\text{O}_{17}:\text{Eu}^{2+}, \text{Mn}^{2+}$; $(\text{Ba}, \text{Sr}, \text{Ca})\text{BPO}_5:\text{Eu}^{2+}, \text{Mn}^{2+}$; $(\text{Sr}, \text{Ca})_{10}(\text{PO}_4)_6 \cdot n\text{B}_2\text{O}_3:\text{Eu}^{2+}$; $2\text{SrO} \cdot 0.84\text{P}_2\text{O}_5 \cdot 0.16\text{B}_2\text{O}_3:\text{Eu}^{2+}$; $\text{Sr}_2\text{Si}_3\text{O}_8 \cdot 2\text{SrCl}_2:\text{Eu}^{2+}$; $\text{Ba}_3\text{MgSi}_2\text{O}_8:\text{Eu}^{2+}$; $\text{Sr}_4\text{Al}_{14}\text{O}_{25}:\text{Eu}^{2+}$; $\text{BaAl}_8\text{O}_{13}:\text{Eu}^{2+}$; $\text{Sr}_4\text{Al}_{14}\text{O}_{25}:\text{Eu}^{2+}$; $\text{BaAl}_8\text{O}_{13}:\text{Eu}^{2+}$; $2\text{SrO} \cdot 0.84\text{P}_2\text{O}_5 \cdot 0.16\text{B}_2\text{O}_3:\text{Eu}^{2+}$; $(\text{Ba}, \text{Sr}, \text{Ca})\text{MgAl}_{10}\text{O}_{17}:\text{Eu}^{2+}, \text{Mn}^{2+}$; $(\text{Ba}, \text{Sr}, \text{Ca})_5(\text{PO}_4)_3(\text{Cl}, \text{F}, \text{OH}):\text{Eu}^{2+}, \text{Mn}^{2+}, \text{Sb}^{3+}$; $(\text{Ba}, \text{Sr}, \text{Ca})\text{MgAl}_{10}\text{O}_{17}:\text{Eu}^{2+}, \text{Mn}^{2+}$; $(\text{Ba}, \text{Sr}, \text{Ca})\text{Al}_2\text{O}_4:\text{Eu}^{2+}$; $(\text{Y}, \text{Gd}, \text{Lu}, \text{Sc}, \text{La})\text{BO}_3:\text{Ce}^{3+}, \text{Tb}^{3+}$; $\text{Ca}_8\text{Mg}(\text{SiO}_4)_4\text{Cl}_2:\text{Eu}^{2+}, \text{Mn}^{2+}$; $(\text{Ba}, \text{Sr}, \text{Ca})_2(\text{Mg}, \text{Zn})\text{Si}_2\text{O}_7:\text{Eu}^{2+}$; $(\text{Sr}, \text{Ca}, \text{Ba})(\text{Al}, \text{Ga}, \text{In})_2\text{S}_4:\text{Eu}^{2+}$; $(\text{Y}, \text{Gd}, \text{Tb}, \text{La}, \text{Sm}, \text{Pr}, \text{Lu})_3(\text{Al}, \text{Ga})_5\text{O}_{12}:\text{Ce}^{3+}$; $(\text{Ca}, \text{Sr})_8(\text{Mg}, \text{Zn})(\text{SiO}_4)_4\text{Cl}_2:\text{Eu}^{2+}, \text{Mn}^{2+}$; $\text{Na}_2\text{Gd}_2\text{B}_2\text{O}_7:\text{Ce}^{3+}, \text{Tb}^{3+}$;

(Ba,Sr)₂(Ca,Mg,Zn)B₂O₆:K,Ce,Tb; (Sr,Ca,Ba,Mg,Zn)₂P₂O₇:Eu²⁺,Mn²⁺;
(Ca,Sr,Ba,Mg)₁₀(PO₄)₆(F,Cl,Br,OH): Eu²⁺,Mn²⁺; (Gd,Y,Lu,La)₂O₃:Eu³⁺,Bi³⁺;
(Gd,Y,Lu,La)₂O₂S:Eu³⁺,Bi³⁺; (Gd,Y,Lu,La)VO₄:Eu³⁺,Bi³⁺; (Ca,Sr)S:Eu²⁺;
SrY₂S₄:Eu²⁺; CaLa₂S₄:Ce³⁺; (Ca,Sr)S:Eu²⁺; 3.5MgO*0.5MgF₂*GeO₂:Mn⁴⁺;
(Ba,Sr,Ca)MgP₂O₇:Eu²⁺,Mn²⁺; (Y,Lu)₂WO₆:Eu³⁺, Mo⁶⁺; (Ba,Sr,Ca)_xSi_yN_z:Eu²⁺.

40. (Original) A phosphor blend including (Sr,Ba,Ca)₂SiO₄:Eu and at least one of (Sr,Mg,Ca,Ba,Zn)₂P₂O₇:Eu,Mn; (Ca,Sr,Ba,Mg)₅(PO₄)₃(Cl,F,OH):Eu,Mn; (Sr,Ba,Ca)MgAl₁₀O₁₇:Eu,Mn; Mg₄FGeO₆:Mn⁴⁺; and one or more garnet phosphors having the general formula (Y,Gd,La,Lu,T,Pr,Sm)₃(Al,Ga,In)₅O₁₂:Ce.
41. (Original) The phosphor blend of claim 40 comprising (Sr_{0.95}Ba_{0.025}Eu_{0.025})₂SiO₄.
42. (Original) The phosphor blend of claim 40 comprising (Sr_{0.58}Ca_{0.36}Eu_{0.06})₂SiO₄.
43. (Currently amended) The phosphor blend of claim 40, wherein said phosphor blend is capable of absorbing the radiation emitted by a light source emitting having a peak emission from 350-500 250-450 nm and emitting radiation that, when combined with said radiation from said light source, produces white light.
44. (New) The lighting apparatus of claim 1, wherein said phosphor composition comprises phosphors (Sr,Ba,Ca)₂SiO₄:Eu; (Ba,Sr,Ca)₅(PO₄)₃(Cl,F,Br,OH):Eu²⁺,Mn²⁺,Sb³⁺; Sr₄Al₁₄O₂₅:Eu²⁺; and, Mg₄FGeO₆:Mn⁴⁺.
45. (New) The lighting apparatus of claim 1, wherein said semiconductor light source has a peak emission at about 405 nm.